No. 771,654. PATENTED OCT. 4, 1904.

S. F. MEEK.

SEPARABLE HINGE.

APPLICATION FILED NOV. 10, 1903.

NO MODEL.

Fig. 3.

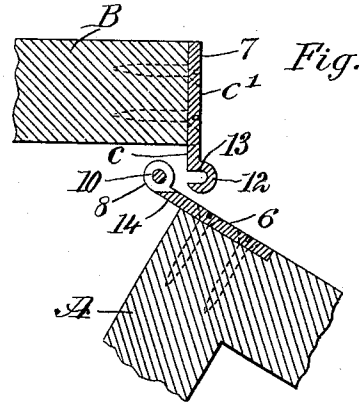


Fig. 2.

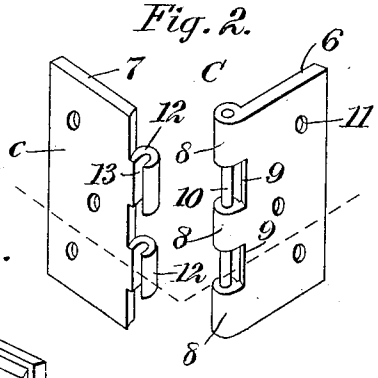


Fig. 1.

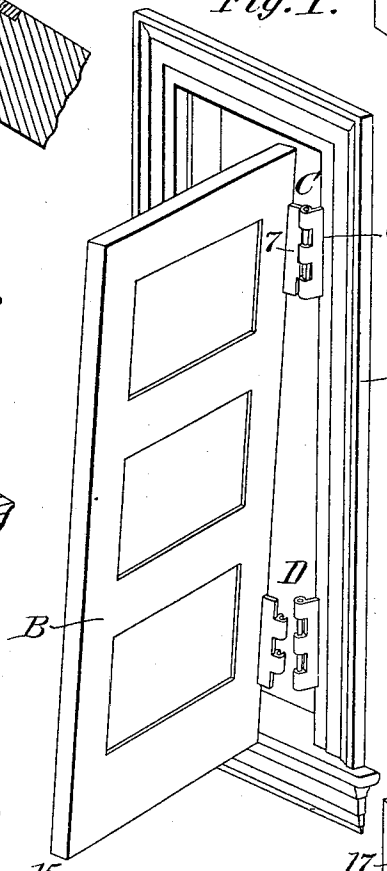


Fig. 4.

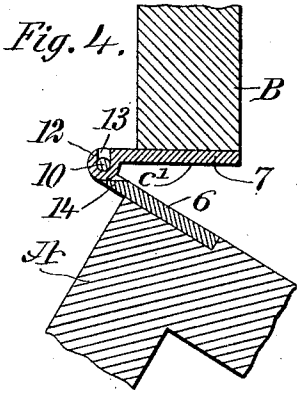


Fig. 5.

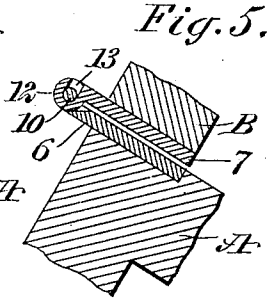


Fig. 8.

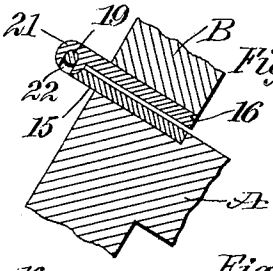


Fig. 7.

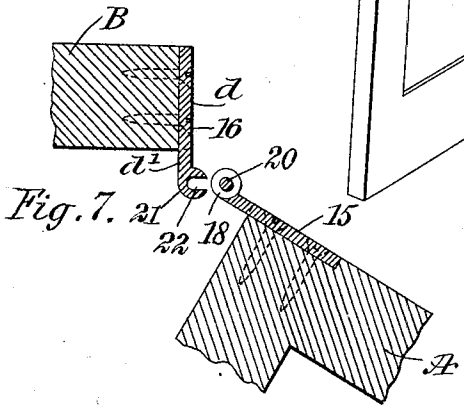
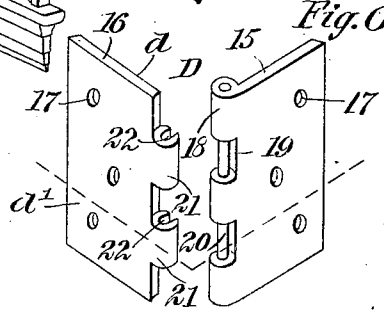


Fig. 6.



WITNESSES:

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No. 771,654. Patented October 4, 1904.

UNITED STATES PATENT OFFICE.

STURGES F. MEEK, OF NEW YORK, N. Y.

SEPARABLE HINGE.

SPECIFICATION forming part of Letters Patent No. 771,654, dated October 4, 1904.

Application filed November 10, 1903. Serial No. 180,541. (No model.)

To all whom it may concern:

Be it known that I, STURGES F. MEEK, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Separable Hinge, of which the following is a full, clear, and exact description.

My invention relates to improvements in separable hinges; and the primary object in view is the provision of a simple and cheap construction wherein one of the two leaves may be easily and quickly connected to or disconnected from the other without removing the pintle and at the same time the two leaves remain in engagement under normal conditions in the service of the article.

A further object of the invention is to provide means for mounting doors, shutters, or other vertically-hinged objects wherein the separable hinges are individually controlled by the force of gravitation, so as to keep the members or leaves of the hinges in engagement, the members of the upper hinge being held in engagement with each other by the outward horizontal pull at the top of the door or shutter while the members of the lower hinge are held in engagement by the tendency of the lower end of the door to move horizontally inward under the weight of the door or shutter.

The hinges may be so manipulated as to overcome the practical difficulty met with by experienced workmen in hanging a door or shutter by ordinary hinges, which difficulty consists in bringing the hinge-leaves on the door simultaneously into engagement with the hinge-leaves on the jamb. While the leaves of each hinge are readily separable and may be easily assembled by an edgewise movement of one to the other, they are held in cooperative relation by the weight of the door or other object adapted to be suspended thereby, and the door or shutter when closed cannot be lifted off the hinges by evil-disposed persons. The construction of the hinge-knuckles is such that easy access is obtainable to the pintle for the application of a lubricant thereto.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the actual scope thereof will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view illustrating the method of hanging a door by a plurality of hinges constructed in accordance with my invention. Fig. 2 is a perspective view of the upper hinge on an enlarged scale and showing the leaves thereof separated. Figs. 3, 4, and 5 are transverse sectional views through the upper hinge applied to a door and a jamb and showing the parts in a separated condition, in a connected and partially-opened condition, and in a connected closed condition, respectively. Fig. 6 is a perspective view of the lower hinge removed from a door and with the leaves in a separated condition; and Figs. 7 and 8 are transverse sections through a hinge applied to a door and a jamb and showing the parts in a detached and closed condition, respectively.

For the purpose of illustration I have represented in Fig. 1 an ordinary door-jamb A and a door B, said parts being connected by a set or plurality of hinges C D, which are constructed in accordance with this invention. The upper hinge C is shown in detail by Figs. 2 to 5, inclusive, of the drawings, and it consists of the pintle-leaf 6 and a removable leaf 7. The leaf 6 is shown as having a plurality of knuckles 8, which are separated by intervening spaces or notches 9, and through the knuckles passes a pintle 10, the latter being shown by Figs. 2 to 5, inclusive, as made in a separate piece from the leaf 6 and secured in a suitable way to the knuckles 8 thereof, although I would have it understood that I prefer to cast the pintle 10 in a single piece with the leaf 6 and its knuckles 8. The pintle-leaf of the hinge C is also provided with a plurality of apertures 11, through which are adapted to pass screws or other fasteners by which said leaf 6 may be secured firmly to a door-jamb in any usual or preferred way. The other leaf, 7, of my improved hinge is made or cast in a single

piece with a plurality of knuckles 12, said knuckles being spaced and disposed in alined relation, so that they will fit in the notches 9 of the leaf 6 and receive the knuckles 8, whereby the two leaves of the hinge are adapted to occupy a coöperative relation.

An important feature of the invention resides in the construction of the knuckles 12 on the separable half of the hinge, and in the embodiment of the invention shown by Figs. 2 to 5 the knuckles 12 of said leaf 7 are provided with longitudinal slots 13, which open through the knuckles in a direction at right angles to the plane of the rear or concealed face *c* of the leaf 7. It will be seen by reference to Figs. 3, 4, and 5 that the slotted knuckles 12 are closed on the side corresponding to the exposed or front face *c'* of the leaf 7, whereas the slots open through the knuckles on the side corresponding to the rear or concealed face *c*, as previously described.

The edge portion of the leaf 6 along the notches 9 thereof is beveled, inclined, or curved, substantially as indicated at 14, so as to produce shoulders which are arranged to provide ample clearance for the admission of the knuckles 12 when the members 6 7 are assembled in operative positions, and this construction not only allows the member 7 to turn on the pintle of the member 6, but the knuckles 12 cannot become separated or disengaged from the pintle and the member 6 except when the leaf 7 is in a position corresponding to the angle assumed in Fig. 3, which figure shows the leaf 7 in the act of being engaged or disengaged. The edges of the notches between the knuckles 12 on the leaf 7 are cut or cast at right angles with the face *c'* and tangent to the perimeters of the knuckles 12 at the point of intersection with the face *c'* to allow for the passage of the knuckles 8 when the leaf 7 passes into or out of engagement with the leaf 6.

The leaf 7 of the upper hinge C is constructed for engagement with the pintle of its companion leaf 6 by a horizontal pull movement of the door, while the leaf 16 of the lower hinge D is reversely constructed to engage the pintle of its companion leaf 15 by a horizontal push movement of the door.

The lower hinge D consists of the leaves 15 16, each preferably cast in a single piece and provided with screw-holes 17, by which screws may be employed to fasten the leaves to the jamb and the door or other object, respectively. This hinge is shown more clearly by Figs. 6, 7, and 8 of the drawings, and the leaf 15 thereof has a series of knuckles 18 and suitable notches 19, said knuckles serving as the support for or made in one piece with the pintle 20, the leaf 15 being similar to the leaf 6 of the upper hinge C. The other leaf 16 of the lower hinge D has a plurality of spaced knuckles 21, each provided with a longitudinal slot 22, which opens through one side of the knuckle, and although the leaf 16 of the lower hinge is similar to the leaf 7 of the upper hinge there is an important and vital distinction between the knuckles 21 12 of the leaves on the respective hinges, said distinction consisting in the arrangement of the slots 13 and 22 with respect to the knuckles and the faces of the leaves. Whereas the slots 13 in the knuckles 12 of the upper hinge-leaf 7 open through the rear side of the knuckles and at right angles to the plane of the rear face *c* of said leaf 7, the slots 22 in the knuckles 21 of the lower hinge-leaf 16 open through the front side of said knuckles and at right angles to the plane of the front exposed face *d* of the said leaf 16. It will be understood that the slotted knuckles 21 of the leaf 16 are closed on the rear or concealed face *d'* of said leaf, whereas the slots open through the knuckles on the front or exposed face *d*, whereby the slots 22 in the leaf 16 of the lower hinge open in a diametrically opposite direction to the slots 13 in the leaf 7 of the upper hinge. This difference in the construc- of the upper and lower hinges insures the leaves of the respective hinges remaining in their proper engagement under the weight or gravity of the door or shutter. Also this difference in the construction of the upper and lower hinges of the set allows the door, shutter, or the like to be readily connected to or disconnected from a jamb or casing, as will be explained later. There exists also a slight difference in the edges of the notches in the leaf 16 between the knuckles 21 and the edges of the notches in the leaf 7 in that those of the leaf 16 are made to conform closely to the perimeters of the knuckles 18 on the leaf 15, inasmuch as the knuckles 18 (contrary to the knuckles 12 on the upper hinge C) do not have to pass by the edges of said notches when engaging or disengaging the leaves of the lower hinge D.

In order to hang or suspend a door, the operator lifts it into position similar to that shown by Fig. 1, so that the slotted knuckles 12 of the upper hinge-leaf 7 engage with the pintle 10 on the companion leaf 6 of said upper hinge, after which the slotted knuckles 21 of the lower hinge-leaf 16 will readily slip into place into the recesses 19 of the companion hinge-leaf 15, whereby the knuckles of the two hinges engage properly with the pintles, so as to couple the leaves of the respective hinges and allow the door or shutter to swing or turn in a horizontal plane. To dismount the door or shutter, it is necessary to swing it to a position wherein the knuckles 12 21 of the leaves 17 16, respectively, will assume a position corresponding to the angle shown in Figs. 3 and 7 of the drawings, whereby the leaf 16 may readily be withdrawn from engagement with the pintle of the leaf 15, so as to separate the lower hinge, and the leaf 7

may be withdrawn from the pintle of the leaf 6 in the opposite direction, thus enabling the door to be dismounted with ease and facility.

Although I have shown and described my separable hinge as adapted for use in connection with a door or a shutter, it is to be understood that the invention is not restricted to use in any particular art, because I reserve the right to use the hinge in any place and for any purpose desired. I also reserve the right to change the angle or position of the slot in each knuckle of the hinge-leaf that is to be fastened to the moving part.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. Means for mounting a door or other object, comprising a plurality of hinges each consisting of separable leaves, one leaf of each hinge having slotted knuckles adapted for engagement with a pintle on the companion leaf of the same hinge, the slots in the knuckles of one hinge-leaf opening in a direction different to that of the slots in the knuckles of the other hinge.

2. The combination with a door and its jamb of a pair of separable hinges, comprising companion leaves having coöperating knuckles and intervening spaces, one companion leaf of each hinge being provided with a pintle between its knuckles, the other leaf of each hinge having its knuckles provided with alined slots adapted to engage said pintles by a horizontal motion, and said slots opening through said knuckles on a line at an angle to the side of the leaf, the removable leaf of the lower hinge having its edge adjacent its knuckles beveled forwardly, while the edge adjacent the knuckles on the removable leaf of the upper hinge is at a right angle to the face of the leaf and tangent to the perimeters of the knuckles on said leaf.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STURGES F. MEEK.

Witnesses:
JNO. M. RITTER,
H. F. BERNHARD.